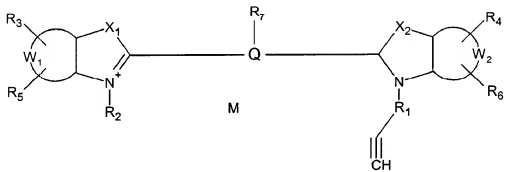
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

1. (presently amended) A cyanine modified with an alkynyl-linker arm, having the following general formula (I), including the valence tautomers thereof:



(I)

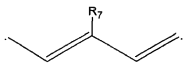
wherein

R_1 is a linear, saturated or unsaturated alkyl chain, having from 1 to 30 carbon atoms, wherein one or more carbon atoms are each optionally substituted by a component independently selected from an oxygen or a sulfur atoms, a –NH– or a –CONH– group, or a cyclic 4-, 5- or 6-membered grouping of carbon atoms, aromatic or not aromatic, wherein one or more carbon atoms are each optionally substituted by a heteroatom independently selected from oxygen, sulfur, nitrogen and selenium; W_1 and W_2 are independently selected from a benzene ring and a naphthalene ring wherein one or more carbon atoms are optionally substituted by one or more heteroatoms selected from oxygen, sulfur, selenium and nitrogen, or one of W_1 and W_2 is absent, or both of them are absent; X_1 and X_2 are independently selected from the group consisting of –O–, –S–, –Se–, $-C(CH_3)_2$, –NH– and –CH=CH–; and R_2, R_3, R_4, R_5 and R_6 are independently selected from hydrogen, –COOH, –OH, $-NO_2$, $-OCH_3$, $-SO_3H$, $-SO_3^-$, and $-R_8-Y$ wherein R_8 is a linear, saturated or unsaturated alkyl chain, having from 1 to 30 carbon atoms, wherein one or more carbon atoms are each optionally substituted by a component independently selected by an oxygen or a sulfur atom, a –NH– or a –CONH– group, or a cyclic 4-, 5- or 6-membered grouping of carbon atoms, aromatic or not aromatic, wherein one or more carbon

atoms are each optionally substituted by a heteroatom independently selected from oxygen, sulfur, nitrogen or selenium, and wherein Y is selected from the group consisting of hydrogen, carboxyl, carbonyl, amino, sulphydryl, thiocyanate, isotyocianate, isocyanate, maleimide, hydroxyl, phosphoramidite, glycidyl, imidazolyl, carbamoyl, anhydride, bromoacetamido, chloroacetamido, iodoacetamido, sulphonyl halide, acyl halide, aryl halide, hydrazide, succinimidyl ester, hydroxysulfosuccinimidyl ester, phthalimidyl ester, naphthalimidyl ester, monochlorotriazine, dichlorotriazine, mono- or di- halide substituted pyridine, mono- or di-halide substituted diazine, aziridine, imidic ester, hydrazine, azidonitrophenyl, azide, 3-(2-pyridyldithio)-propionamide, glyoxal, aldehyde, nitrophenyl, dinitrophenyl, trinitrophenyl and $-C\equiv CH$, provided that one of R_2, R_3, R_4, R_5 and R_6 is $-R_8$-Y, with Y being different from H and from $-C\equiv CH$;

M is a counterion; and

Q is a polymethinic chain selected from:



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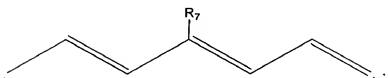

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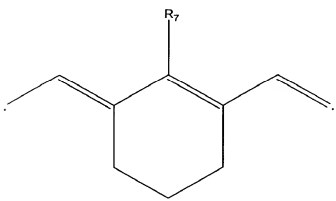
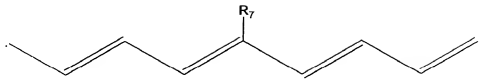
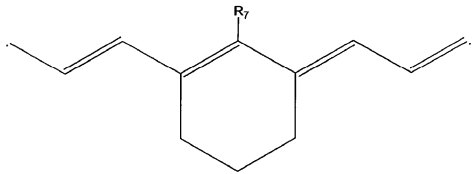
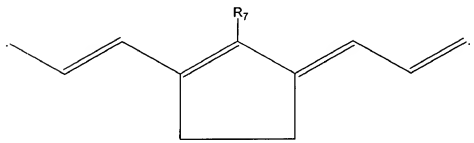
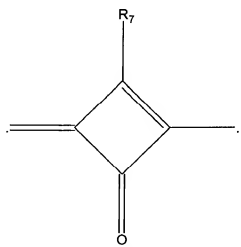








or



wherein R_7 is selected from the group consisting of hydrogen, fluorine, chlorine, bromine, iodine, phenoxy, thiophenoxy, anilino, cyclohexylamino, piridine, $-R_8-Y$, $-O-R_8-Y$, $-S-R_8-Y$,

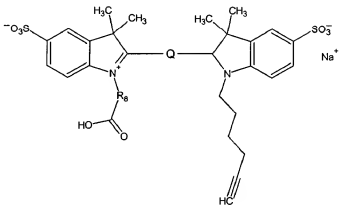
–NH–R_8–Y, wherein R_8 and Y are as defined above, and aryl optionally substituted by one or more substituents independently selected from the group consisting of $–SO_3H$, carboxyl (–COOH), amino ($–NH_2$), carbonyl (–CHO), thiocyanate (–SCN), isothiocyanate (–CNS), epoxy and –COZ wherein Z represents a leaving group.

2. (original) The cyanine according to claim 1, wherein said leaving group is selected from the group consisting of –Cl; –Br; –I; –OH; $–OR_{11}$; $–OCOR_{11}$, wherein R_{11} is linear or branched alkyl having from 1 to 4 carbon atoms;

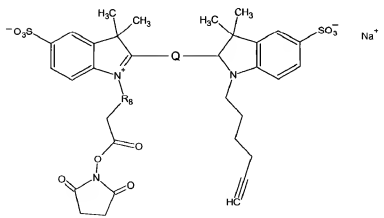
–O–CO–Ar, wherein Ar is aryl optionally substituted; –O–CO–Het, wherein Het is selected from succinimide, sulfosuccinimide, phthalimide and naphthalimide; $–NR_{22}R_{33}$, wherein R_{22} and R_{33} are each independently linear or branched alkyl having from 1 to 10 carbon atoms.

Claim 3 (canceled)

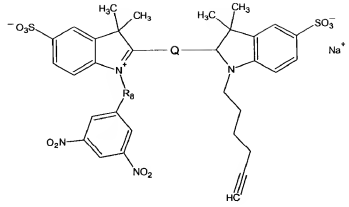
4. (previously amended) The cyanine according to claim 2 selected from the group consisting of:



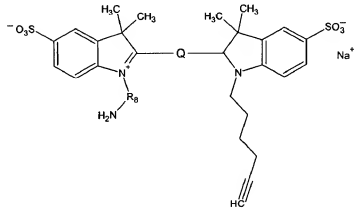
Formula (Ib)



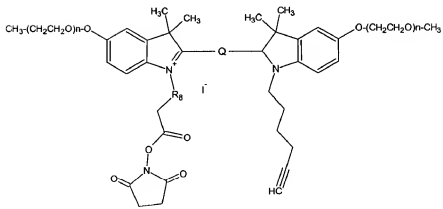
Formula (Ic)



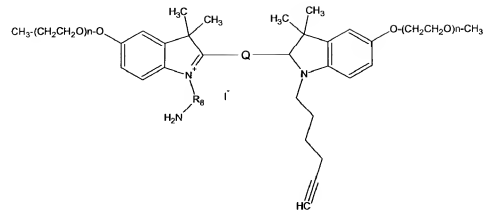
Formula (Id)



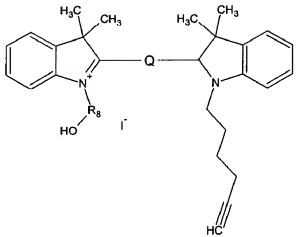
Formula (Ie)



Formula (II)



Formula (Im)



Formula (In),

wherein Q and R_8 are as defined in claim 1 and n is an integer between 1 and 100.

5. (previously amended) The cyanine according to claim 1, conjugated through the linker arm $-R_1-C\equiv CH$ with a biomolecule.

6. (original) The cyanine according to claim 5, wherein said biomolecule is selected from the group consisting of nucleotides, nucleosides, oligonucleotides, nucleic acids, peptides and proteins.

7. (previously amended) The cyanine according to claim 1, conjugated through the linker arm $-R_1-C\equiv CH$ with a second fluorescent dye, said second fluorescent dye being capable of emitting fluorescence at wavelengths at which the cyanine is capable of absorbing, or said

fluorescent dye being capable of absorbing at wavelengths at which the cyanine is capable of emitting.

8. (original) The conjugated cyanine according to claim 7, wherein said second fluorescent dye is N,N'-Difluoroboryl-1,9-dimethyl-5-(4-iodophenyl)-dipyrrin.

9. (original) The conjugated cyanine according to claim 7, wherein said second fluorescent dye is a transition metal complex with at least one heterocyclic nitrogen-containing ligand.

10. (previously amended) The cyanine according to claim 1, conjugated through the linker arm $-R_1-C\equiv CH$ with a first biomolecule selected from the group consisting of nucleotides, nucleosides, oligonucleotides, nucleic acids, peptides, proteins, vitamins and hormones, and through the linker arm $-R_8-Y$ with a second equal or different biomolecule selected from the group consisting of nucleotides, nucleosides, oligonucleotides, nucleic acids, peptides, proteins, vitamins and hormones.

Claims 11 and 12 (canceled)

13. (previously amended) The use of a cyanine according to claim 1 as a fluorescent marker for biomolecules or as a quencher.